STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Environmental Management
DIVISION OF SITE REMEDIATION
291 Promenade Street
Providence, R.I. 02908-5767

24 April 1995

Mr. Robert Krivinskas, Remedial Project Manager
U.S. Department of the Navy
NAVFACENGCOM - Northern Division
Code 1823, Mail Stop #82
10 Industrial Highway
Lester, PA 19113-2090

RE: PROPOSED PLAN (03/17/95 Draft)
Source Control Operable Unit, Site 09 - Allen Harbor Landfill
Naval Construction Battalion Center, Davisville Rhode Island

Dear Mr. Krivinskas:

The Rhode Island Department of Environmental Management (RIDEM) has conducted a review of the Draft Proposed Plan (the Plan) for the Source Control Operable Unit (OU1) for the Allen Harbor Landfill (Site 09) at NCBC. The Draft Plan describes the Navy's proposed remedial action, or preferred alternative, which was selected utilizing a presumptive remedy approach. As described in the Plan, the primary components of the Navy's preferred alternative include a RCRA Subtitle C multi-layer cap in combination with a steel sheet pile wall along Allen Harbor and a slurry wall along Sanford Road. The preferred alternative also includes landfill gas management, surface water management, institutional controls and long-term operation and maintenance (O&M). Further, the Plan notes that the management of migration remedial actions will be developed and evaluated under a second operable unit (OU2).

As a result of our review, RIDEM has determined that it cannot support the Navy's preferred alternative. However, RIDEM does concur with a majority of the components of the Plan and with modifications to either Alternative 2 or 3, we would be able to offer our approval.

The following summarizes the primary obstacles to State concurrence:

- The preferred alternative does not meet the requirements of long-term effectiveness and permanence.

Steel sheet pile has a limited useful life and will eventually fail, ultimately necessitating replacement to prevent erosion. RIDEM views such an alternative as neither permanent nor cost-effective. RIDEM cannot support a remedial action with such known limitations.

Please note that simply meeting the requirements of erosion control for the O&M period (30 years) is insufficient.

- The above grade steel sheet pile wall does not meet the specifications of final cover.

Rhode Island Rules and Regulations for Solid Waste Management Facilities, Section 3.36, define "Final Cover" as *cover material which will be permanently exposed to the environment.* The several layers which comprise the final cover system and the acceptable materials to be used for the construction of the system are clearly specified in Section 14.12 of these regulations. Steel is not considered to be an acceptable protective layer.

- The preferred alternative violates the requirements for maximum side slopes.

The Rhode Island Rules and Regulations for Solid Waste Management Facilities, Section 10.10, mandate that landfill side slopes not exceed a maximum grade of 3:1. Selection of a remedy that is inconsistent with this requirement is a violation of these regulations.

This is further supported by the Coastal Resource Management Council's (CRMC) regulations which require that fill slopes not exceed a maximum grade of 30%.

- An approvable Proposed Plan shall state that the Navy will evaluate the potential impacts to the adjacent wetlands and salt marsh resulting from the installation of the proposed slurry wall. This investigation must also consider what controls could be included to offset any impacts. Such controls include, but are not limited to, the following: removal of the concrete slabs from the southern channel adjacent to the landfill, repair of the single culvert, restoration of the salt water marsh immediately west of Sanford Road, and construction of additional culverts.

- An approvable Proposed Plan shall state that the Navy will evaluate locating the slurry wall as close to the fill area (east of Sanford Road) as reasonably possible. Such a design would aid in minimizing disturbance to the stand of trees which provide a visual screen, a wind break, and dust control from the landfill.

- RIDEM has concerns regarding encroachment of the landfill cap system into the harbor and saltwater mud flats. An approvable Proposed Plan shall state that the Navy will evaluate this issue and attempt to minimize encroachment. If encroachment is unavoidable, the Plan must include plans for mitigation.

- The Proposed Plan and Focused Feasibility Study fail to adequately evaluate the relative costs of the alternatives. Specifically, the Plan failed to include costs associated with replacement of the steel when it fails. Further the Plan appears to underestimate the costs associated with the intensive long-term O&M associated with the maintenance of steel in a corrosive environment.

  Also, the Plan discusses potential futures costs associated with slope or liner failure resulting from a stone revetment. This concern is unsubstantiated. A properly designed plan must include such variables in its calculations and must be engineered to account for these types of stresses at the liner/revetment interface.

For the reasons stated above, as well as those attached, the Navy's preferred alternative fails to meet all the necessary criteria, i.e. threshold, balancing, modifying, which are required under the CERCLA remedy selection process. However, upon adequately addressing the comments and concerns in this package, the selected alternative will more closely achieve satisfaction of the criteria, particularly the consideration of State ARARs.

RIDEM strongly recommends that the Navy's preferred alternative be presented to the local officials and RAB members prior to initiating the official public meeting/hearing and comment period. This will allow the Navy an opportunity to hear the local community's concerns, particularly with respect to future land use in this area, prior to selecting an alternative that is potentially unacceptable to the local stakeholders. The ROD process for sites 05 and 08 clearly demonstrates the importance of including the local community early in the process.

Finally, please note, that while RIDEM appreciates the EPA's flexibility with respect to the final design of the seaward stabilization; specifically, the height of the sheet pile wall. However, we do not concur with deferring this determination until the public hearing process. The Navy, the EPA and RIDEM should select the most appropriate remedy for this site, as with any site, then present a preferred alternative to the public. As previously stated, we suggest meeting with the local officials, potentially in conjunction with a RAB meeting, to present the alternatives and solicit their input.

Sincerely,

W. S. Angell II

Warren S. Angell II, Supervising Engineer
Division of Site Remediation

cc: James Fester, Associate Director, RIDEM
Terrence Gray, Chief, RIDEM DSR
Mary Sanderson, Acting Branch Chief, EPA Region I
Captain Waters, Northern Division

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PROPOSED PLAN (DRAFT)
SOURCE CONTROL OPERABLE UNIT
SITE 09 - ALLEN HARBOR LANDFILL

NAVAL CONSTRUCTION BATTALION CENTER
DAVISVILLE, RHODE ISLAND
03/17/95

RIDEM Comments:

1. **Page 14, Section 6.0, The Navy's Preferred Alternative; Paragraph 3, Last sentence.**

   The portion of the plan should specifically indicate that an elevation which is one foot higher than the 100-year storm elevation is equivalent to fifteen (15) feet high (15 NGVD).

2. **Page 14, Section 6.0, The Navy's Preferred Alternative.**

   This section should specifically state that the Navy's Preferred Alternative is considered to be a *"Limited Action"* remedy. This will alleviate any confusion possibly caused to the public upon reading Section 7.0 which categorizes Alternative 3 as a *"Limited Action"* remedy.

3. **Page 18, Section 6.0, The Navy's Preferred Alternative; Paragraph 1.**

   The Division's concerns regarding gas vents have not yet been addressed. As this issue remains outstanding, this proposed plan must note that treatment of gas will be added if it is determined to be necessary.

   Also, as RIDEM has previously advocated at other landfill sites, e.g. McAllister Point, we believe consideration should be given to connecting the landfill gas venting system to create one (1) venting location. Even if treatment is determined to be unnecessary, having only one venting location allows for better control of the release, i.e. enclosure of the release vent in a structure.

4. **Page 18, Section 6.0, The Navy's Preferred Alternative; Paragraph 3.**

   To be consistent with your evaluation of all the alternatives (NEPA requirement), please state that consideration was not given for costs associated with the replacement of the steel sheet pile wall in the O&M costs for the preferred alternative. Nor were costs associated with corrosion protection included.

This must be included to be consistent with the last paragraph of Section 7.0 which states that the O&M costs for Alternative 3 do not include possible repair to the cap due to storm erosion, slope failure, or failure of the liner due to the presence of the stone revetment.

5. **Section 7.0, Other Alternatives Evaluated in the Focused Feasibility Study; Alternative 3 - Limited Action;**

> *This alternative was developed to provide containment of the upper aquifer through the use of the sheet pile wall, while providing greater conformance with the Coastal Resource Management Program regulatory preference for using revetments over sheet piling in shoreline erosion protection applications.*

The State of Rhode Island considers CRMC's policy regarding a preference for riprap revetments to vertical steel to be an ARAR. This is a consistently applied state standard and is applicable to closure activities at this site.

Also, the standards listed in Section 300.2, Filling, Removing, or Grading of Shoreline Features of the CRMC regulations states the following:

> **(a) Fill slopes shall have a maximum grade of 30 percent.**

This standard is also reinforced in the Rhode Island Solid Waste Regulations as we have previously noted in our correspondence to the Navy, as well as in the cover to this comment package.

Therefore, the above sentence must be modified to state that this alternative was also developed to conform with State ARARs mandating maximum slope limitations of 3:1.

6. **Section 7.0, Other Alternatives Evaluated in the Focused Feasibility Study; Alternative 3 - Limited Action;**

This section states that in order to construct the 3:1 slope the sheet pile would be installed to an initially higher elevation then, upon completion, would be cut off to its final elevation. According to the Plan, this would offer protection from possible wave and storm effects.

Please note that the face of the landfill could be protected from possible storm and wave effects by implementing techniques currently being employed by the Navy at the McAllister Point Landfill. These methods include filter fabric, hay bales, and a porta-dam. The Navy should consider such alternate measures or other available techniques which could provide an acceptable means of protection, rather than the an elevated steel sheet pile wall.

As the costs associated with cutting sheet pile in the field are high, such alternate and proven techniques would reduce costs and alleviate the worker safety issues. Comment 8 further discusses this issue with regards to worker safety.

7. **Section 7.0, Other Alternatives Evaluated in the Focused feasibility Study; Alternative 3 - Limited Action;**

> *The estimated operations and maintenance costs presented above do not include provisions to repair the cap due to storm erosion, slope failure, or failure of the liner due to the presence of the stone revetment.*

This statement, if it is to remain in future drafts of the Proposed Plan, must be substantiated. The statement is damaging to the Navy's credibility, as the chosen alternative for the McAllister Point Landfill Source Control ROD at NETC is very similar to this alternative, i.e. stone revetment, and such uncertainties were not brought to the public's attention during that selection process.

As previously stated, to be consistent with your evaluation of all alternatives (NEPA requirement), please state that estimates for the replacement of the steel sheet pile wall or corrosion protection have not been included in the O&M costs for the preferred alternative (Alternative 2).

8. **Page 19, Section 8.1, Overall Protection of Human Health and the Environment; Paragraph 2.**

RIDEM disagrees with the statement indicating that Alternative 2 provides a greater degree of short-term and long-term protection of human health and the environment than Alternative 3 or other alternatives not considered here.

A. Short-term Effectiveness:

With some minor modification in construction technique the short-term impact of Alternative 3 could be similar, if not identical, to Alternative 2. It is stated that increased personal protective equipment (PPE) would be required for Alternative 3 during the construction of the toe of the revetment because of the height of the sheet pile wall which would cause decreased air flow at the bottom elevations of the cap.

This concern could be eliminated by cutting the steel sheet pile to finished elevation prior to shipment to the site rather than cutting to finished grade in the field. This would also save money as it is expensive to cut steel in the field.

Regarding the concern of protecting the face of the landfill from possible storm action, the Navy could use a combination of filter fabric, hay bales, and a porta-dam, as is being done for the McAllister Point Landfill, or select another alternative which provides an acceptable means of protection.

Also, initiation of construction activities is proposed for the summer months which corresponds to the most active period the harbor. The Navy should be aware of this issue and minimize any potential exposure to the summer population of the harbor. RIDEM will require a detailed health and safety plan which addresses this issue.

B. Long-term effectiveness:

As was previously stated in RIDEM's 3 April 1995 comments on the Focused Feasibility Study (FFS), we disagree with the Navy's estimate for the effectiveness of the steel sheet pile wall over time. RIDEM's research has determined that under freshwater conditions a steel sheet pile wall will last approximately 20 to 25 years provided annual maintenance is conducted. Under saltwater conditions, the useful life will be less. Additionally, the wall will be in a situation of wet and dry conditions, due to tidal changes, which will promote a more accelerated decay of the wall.

Ultimately, the steel will fail and erosion will ensue. Therefore, the preferred alternative does not meet the requirement for long-term effectiveness and permanence.

9. Page 19, Section 8.1, Overall Protection of Human Health and the Environment; Paragraph 2.

This paragraph states that both Alternatives 2 and 3 comply with ARARs. This is not accurate as is previously discussed (comment 5).

Please revise future drafts of the Proposed Plan to accurately reflect this issue.

10. Compliance with Applicable or Relevant and Appropriate Requirements (ARARs);

This section is inadequate and requires further information prior to providing this Plan to the public for consideration.

Among other deficiencies, this section fails to accurately represent state regulations, particularly Solid Waste and CRMC requirements.

Also, please note that portions of the remedy which are considered to be off-site cannot be waived per the "program" regulations as is contemplated in this section.

11. **Page 23, Section 8.3, Long-Term Effectiveness and Permanence; Paragraph 4.**

The Proposed Plan should specifically state the restrictions that will be placed upon future site use and development under deed restrictions. For example, as this area is slated for open space/conservational use, please state if foot paths and/or structures would be allowed on the cap.

12. **Page 23, Section 8.3, Long-Term Effectiveness and Permanence; Paragraph 4.**

Regarding the statement that a vertical face would be more effective than a cutback slope in restricting site access, obviously, if an alternative was chosen that included a cutback slope, we would require consideration similar to that at the McAllister Point Landfill, NETC.

13. **Page 23, Section 8.3, Long-Term Effectiveness and Permanence; Paragraph 5.**

As was previously stated, RIDEM disagrees with the Navy's assessment of the long-term effectiveness of Alternative 2. Specifically, even with intense maintenance, its life is limited and will eventually fail.

Also, regarding Alternative 3, please note that the Navy's concerns regarding its long-term effectiveness along with the Navy's concerns for the potential increased O&M costs resulting from stresses caused by stone revetment is unsubstantiated. Further, statements such as this seriously jeopardizes the Navy's credibility for the ongoing project at the McAllister Point Landfill, NETC. The language included in this Proposed Plan is effectively criticizing the remedy currently being implemented at that site. Further, <u>none</u> of these concerns were mentioned in the selection process, Proposed Plan or ROD, for McAllister Point Landfill, NETC.

14. **Pages 24, Section 8.5, Short-Term Effectiveness; Last Paragraph.**

As was previously stated, the Navy's concern for worker personnel protection and safety could be alleviated by following alternative measures, i.e. the installation of the steel sheet pile wall to final grade rather than being cut in the field. This would minimize risks to worker safety and reduce the cost of cutting the sheet pile in the field.

15. **Page 25, Section 8.6, Implementability;**

A. Regarding the statement that Alternative 3 would be significantly more difficult to implement than the preferred alternative, it should be noted that under the Navy's own estimates, it would require only **one (1)** more month to complete. Ten (10) months versus 9 (nine) months.

B. Regarding the additional volumes of waste that would be excavated during cutback in order to achieve a 3:1 slope versus the grading necessary for a sheet pile wall, RIDEM has requested estimates of these volumes and has yet to receive it.

C. Regarding the cutting of the sheet pile wall at its final design elevation for Alternative 3 in the field, prior comments clearly state RIDEM's position on this issue.

16. Page 26, Section 8.7, Cost;
Paragraph 2, Last Sentence.

This section states that the estimated cost of Alternative 3 does not include repairs for slope or liner failure, should they occur.

As was previously stated, this concern is unfounded. A proper design must include variables such as this in its engineering calculations and compensate for these types of stresses at the liner/revetment interface.

Further, the uncertainties associated with the long-term effectiveness of Alternative 2, specifically, the costs associated with replacement of the sheet pile wall upon failure must be included.

17. Page 26, Section 8.9, Community Acceptance;

RIDEM recommends that the Navy's preferred alternative be presented to the local officials and RAB members prior to initiating the official public meeting/hearing and comment period.

This will allow the Navy and the EPA the opportunity to hear the local community's concerns prior to selecting an alternative that is potentially unacceptable to the local stakeholders.

The ROD process for sites 05 and 08 clearly demonstrate the importance of including the local community early in the process. These sites are relatively simple as compared to the Allens Harbor Landfill and the potential impact on the local community is not nearly as significant as this landfill.

18. Page 27, Section 9.0, The Navy's Rationale for Proposing the Preferred Alternative; Paragraph 2, Sentence 3.

For the reasons noted in previous comments and the cover to this package, RIDEM does not agree with the Navy's Preferred Alternative at this time.

Of significant concern to RIDEM, is the failure of the preferred alternative to meet State ARARs and the failure of this document to provide a complete and accurate representation of the remedial alternatives to the public.

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